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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/788,427	02/27/2004	Paul Alistair Thomas	684-011708-US (PAR)	6990
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EXAMINER				
STEPHEN, EMEM O				
ART UNIT		PAPER NUMBER		
2617				
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03/26/2008		PAPER		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/788,427

Applicant(s)

THOMAS ET AL.

Examiner

EMEM STEPHEN

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 February 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-16 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 27 December 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-8508)
- 4) ☐ Interview Summary (PTO-413)
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____
- Paper No(s)/Mail Date _____

DETAILED ACTION

Response to Arguments

1. Applicant's arguments filed 01/14/2008 have been fully considered but they are not persuasive.

The Examiner respectfully disagrees with the applicant's argument that Wu and Hayes fails to disclose "bending an entirety of the keymat for removably mounting the keymat," for the reason that Hayes discloses a keymat 15 made from an elastomeric material such as silicon rubber or a rubber-modified polyurethane with a lip 16 that can be engaged with the edges of the board 10 to retain the mat, furthermore it has a rim 17 that is stretched to accurate predetermined dimensions (col. 2 lines 45-62). The keymat disclosed by Hayes has an elastic property that makes it stretchable, compressible, and bendable for removable mounting. Hayes further discloses keymat 15 is of a resiliently deformable material (col. 4 line 65), therefore, Hayes discloses applicant's limitation of "bending an entirety of the keymat for removably mounting the keymat," therefore, rejections are maintained and repeated below.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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3. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148

USPQ 459 (1966), that are applied for establishing a background for determining

obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

4. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

5. Claims 1, 2, 4-7, 9-12, and 14-19 are rejected under 35 USC 103(a) as being unpatentable over US Publication No. 2006/0165465 A1 to Wu in view of U.S. Pat. No. 4,634,818 to Hayes-Pankhurst et al. (Hayes).

Regarding claim 1, Wu disclose an apparatus comprising a bendable keymat, a cover (see figure 9, upper enclosure, see fig. 12 key module 12), and a substrate located within the cover comprising a plurality of key switches (see figure 15, membrane 13a), wherein, said keymat comprises a plurality of lips (see figure 3, par. 76, tabs 25, see fig. 12 hooks 825) located at and extending outward from edges of said keymat

toward a rim of the cover and a plurality of pressure transmitters (see figure 9, keycap 15) extending from an interior surface of the keymat, and said cover comprises a plurality of indentations (i.e. grooves 26, see fig. 12, slot 826) configured to receive said plurality of lips (par. 76), wherein the bendable keymat comprises elastic properties that force the lips into the plurality of indentations on the cover to attach the edges of the keymat to the cover (pars. 76-77, if the tabs can be resiliently flexed then the keymat comprises elastic properties), and said indentations are located at edges of a recess for removably mounting said keymat (see figure 3, par. 76, grooves 26), the cover also includes a plurality of apertures (see figures 3, 9, and par. 75, i.e. key actuating mechanism 16, rubber dome 7) through which the plurality of pressure transmitters pass to activate the plurality of key switches.

However, Wu fails to disclose an elastomeric keymat, and configured so that an entirety of the bendable elastomeric keypad bends. Hayes discloses an elastomeric keymat (col. 2 lines 45-54), and configured so that an entirety of the bendable elastomeric keypad bends (col. 2 lines 45-62, and col. 4 line 65, elastic property makes keypad stretchable, compressible, and bendable for removable mounting).

Therefore, it would have been obvious to one ordinary skill in the art at the time of the invention was made to modify Wu's keymat with the elastomeric keymat of Hayes in order to fit the need of the user.

Regarding claim 6, Wu disclose a cover (see figure 9, upper enclosure) for a communication device comprising a recess (see figures 4, i.e. keycap bay 111) for /receiving a keymat comprising a plurality of lips (see figure 3, par. 76, tabs 25)

extending outward from edges of the keymat, the cover further comprising a plurality of indentations located at the edges of said recess for receiving said plurality of lips (see figure 3, par. 76, grooves 26) and attaching the edges of the keymat to the cover, where the plurality of indentations is configured so that elastic properties of the keymat force the lips into the plurality of indentations (pars. 76-77, if the tabs can be flexed then the keymat comprises elastic properties), and a plurality of apertures (see figures 3, 9, and par. 75, i.e. key actuating mechanism 16, rubber dome 7) through which a plurality of pressure transmitters of the keymat pass to activate a plurality of key switches located within the cover.

However, Wu fails to disclose an elastomeric keymat, and an entirety of the keymat is bent.

Hayes discloses an elastomeric keymat, and an entirety of the keymat is bent (col. 2 lines 45-62, and col. 4 line 65).

Therefore, it would have been obvious to one ordinary skill in the art at the time of the invention was made to modify Wu's keymat with the elastomeric keymat of Hayes in order to fit the need of the user.

Regarding claim 11, Wu disclose a bendable keymat for removable mounting on a cover of a communication device (see figure 3), comprising lips (see figure 3, par. 76, tabs 25) located at and extending from edges of said bendable keymat configured to extend outward toward a rim of the cover and insert into indentations of said cover (see figure 3, par. 76, grooves 26), wherein the bendable keymat comprises elastic

properties that force the lips into the indentations on the cover to attach the edges of the keymat to the cover (pars. 76-77, if the tabs can be flexed then the keymat comprises elastic properties), the bendable keymat further comprising a plurality of pressure transmitters (see figures 3 and 9, keycap 15) extending from an interior surface of the keymat configured to pass through apertures of the cover and to activate key switches located within the cover(see figure 9, and par. 75, i.e. key actuating mechanism 16, rubber dome 7).

However, Wu fails to disclose an elastomeric keymat, configured so that an entirety of the bendable elastomeric keypad bends.

Hayes discloses an elastomeric keymat (col. 2 lines 45-62), configured so that an entirety of the bendable elastomeric keypad bends (col. 2 lines 45-62, and col. 4 line 65).

Therefore, it would have been obvious to one ordinary skill in the art at the time of the invention was made to modify Wu's keymat with the elastomeric keymat of Hayes in order to fit the need of the user.

Regarding claim 17, Wu discloses a method comprising: inserting the bendable elastomeric keypad into a recess of a cover of a communication device (see fig. 3), where elastic properties of the bendable elastomeric keypad force a plurality of lips on the keypad into corresponding indentations of the recess for removably securing the keypad in the recess (pars. 76-77, if the tabs can be flexed then the keymat comprises elastic properties).

However, Wu fails to disclose bending an entirety of a bendable elastomeric keypad. Hayes discloses bending an entirety of a bendable elastomeric keypad (col. 2 lines 45-62, and col. 4 line 65).

Therefore, it would have been obvious to one ordinary skill in the art at the time of the invention was made to modify Wu's keymat with the elastomeric keymat of Hayes in order to fit the need of the user.

Regarding claims 2, 4, 5, 7, 9, 10, 12, 14, 15, and 18-19, the combination of Wu and Hayes further teaches the apparatus wherein said keymat comprises one or more guiding recesses (edges 113), and said cover comprises one or more corresponding guiding pieces (guide rails 114) (Wu, figures 4, 8, and pars. 79, 84).

Regarding claim 16, the combination of Wu and Hayes further teaches the apparatus wherein said keymat is being molded in one piece (Wu, Figures 3, and 8, shows it is molded as a piece, key module 12).

6. Claims 3, 8, 13, and 18-19 are rejected under 35 USC 103(a) as being unpatentable over Wu in view of Hayes and further in view of U.S. Pub. No. 2003/0119543 A1 to Kfoury et al. (Kfoury).

Regarding claims 3, 8, 13, and 18-19, the combination of Wu and Hayes further discloses comprises one or more guiding pieces and recesses. However, Wu and Hayes fail to disclose guiding pieces that are arranged in direct connection to one or more of said plurality of lips

In an analogous art, Kfoury teaches guiding pieces that are arranged in direct connection to one or more of said plurality of lips (Figure 4, 5; paragraph [0032]-[0033]; Kfoury teaches that the key module is successfully assembled to the body by the engaging members including grooves, rails, contact pad and receptacle respectively aligned and engaged, lined up, or guided to the corresponding members thereby the elements are acting as guiding elements for a successful operation of inserting the key modules into the device body).

Therefore, it would have been obvious to one ordinary skill in the art at the time of the invention was made to modify the combination and include one or more guiding recesses arranged in direct connection to one or more of said plurality of indentations such as taught by Kfoury as an alternative for the same purpose of aligning the interchangeable the process of attaching, connecting, or securing said keymat to said cover.

Conclusion

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

The following patents are cited to further show the state of the art with respect to apparatus:

U.S. Pat. No. 5521342 to Bartley et al

U.S. Pub. No. 20030012592 A1 to Min

U.S. Pat. No. 5373458 to Bishay et al

U.S. Pat. No. 6259044 B1 to Paratore et al

U.S. Pat. No. 5576981 to Parker et al.

8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to **EMEM STEPHEN** whose telephone number is 571 272 8129. The examiner can normally be reached on 8-5 Mon-Fri..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Charles Appiah can be reached on 571 272 7904. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

ES
03/19/2008

/Charles N. Appiah/
Supervisory Patent Examiner, Art Unit 2617